

## **Spinal Stenosis**

**Overview:** Spinal stenosis is defined as the narrowing of the spinal column around the spinal cord or nerve roots. The spinal column is composed of a number of structures. The most delicate of these is the nerves that make up the spinal cord and branch out into nerve roots. These nerves are protected by a combination of bones, disks and ligaments. The bones have a number of joints, called the facet joints, at every level of the spine. Studies show that spinal stenosis occurs when degenerative arthritis of these facet joints leads to calcium deposits on the interior spinal ligaments. When this is coupled with a bulging disk, the result can lead to compression of a nerve root, which then causes pain and irritation. Patients may limp as a result of the pain and the reduced blood flow to the nerves. Patients may notice these symptoms occur after they walk a short distance. Resting may help relieve the symptoms. Patients will also find themselves leaning forward or flexing the lower spine to help relieve irritation of the affected nerves. Sitting for a time may also help relieve the pain. Research shows that the pain from spinal stenosis can mimic pain brought about by other spinal disorders. For most patients the condition develops slowly over time. It is quite rare for the condition to be brought about by a single incident.

**Diagnosis:** Doctors will often find during a physical examination that a patient with spinal stenosis will have an abnormal gait pattern. There is usually tenderness over the affected portions of the spine, with restrictions in range of motion at the waist. Doctors will often utilize X-rays, such as a CT scan, to better study the joints and bony structures in the spine. For patients who may be facing surgery, a MRI or myelogram is sometimes used to better study the nerve structures within the spine.

**Treatment:** Nerve block treatments or injections of anesthetic medication with anti-inflammatory medications can be quite helpful in treating the pain. These are epidural injections and are usually given in a series of three treatments over a two to three week period. If the epidural injections are not helpful, the doctors may use a nerve block designed to reduce irritation from the joints of the back that can be contributing to the symptoms. The use of oral nonsteroidal anti-inflammatory medications in conjunction with pain medications may be useful as well.

Doctors may prescribe physical therapy exercises that will initially address flexibility and proceed to strength training exercises for the surrounding muscles in order to provide support for the affected parts of the spine. For some patients with spinal stenosis, surgery is a last resort to relieve pressure on the effected nerves in the spine. This is usually reserved for patients with neurologic weakness in the affected extremities.

Behavioral interventions, including biofeedback and muscle relaxation training, in conjunction with counseling are used for patients with recurring pain when all other methods fail. The goal is to develop coping mechanisms to live more productively with the residual pain.